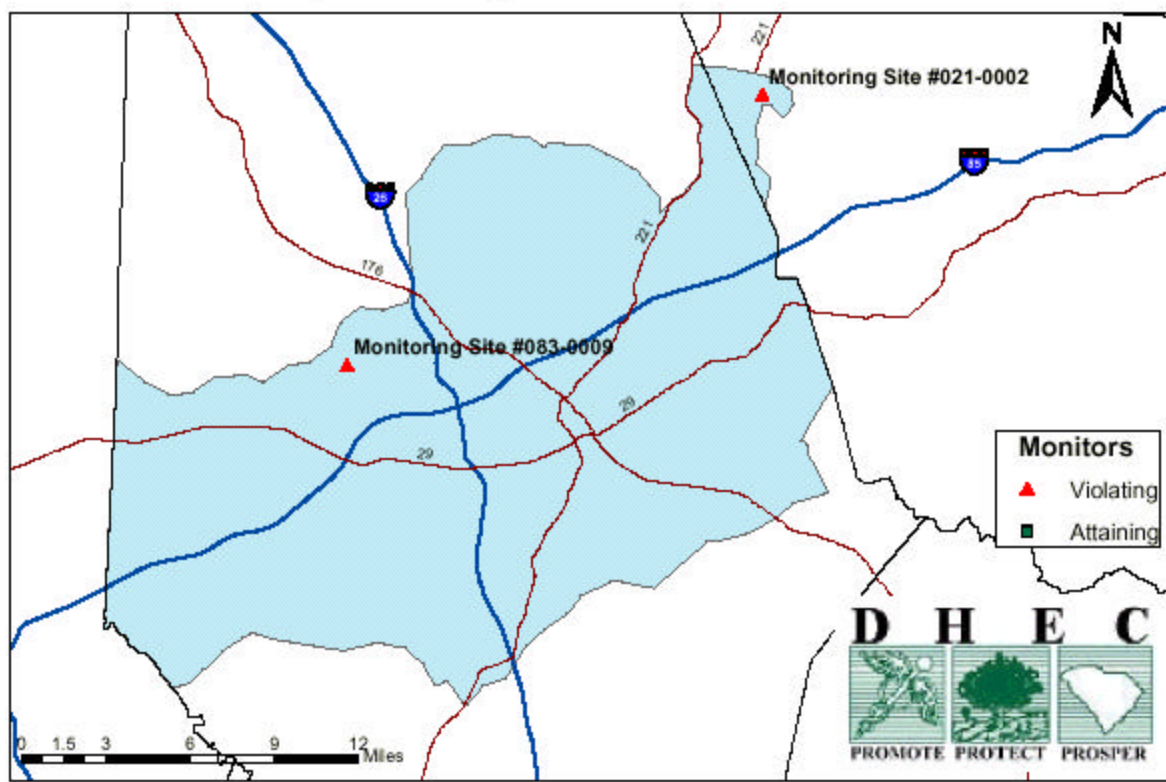


## Spartanburg Nonattainment Area



**Figure 1: Spartanburg Nonattainment Area Map**

The South Carolina Department of Health and Environmental Control (Department) recommends that the area encompassed by the boundaries of the Spartanburg Metropolitan Planning Organization (MPO) and additional portions of Spartanburg and Cherokee Counties be designated a nonattainment area for violating the 8-hour ozone National Ambient Air Quality Standard (air quality standard) based on 2000 through 2002 monitoring data. This recommended area will be referred to as the Spartanburg Nonattainment Area throughout the rest of this document.

The recommended boundary for the Spartanburg Nonattainment Area captures 58% of the population in Spartanburg and Cherokee Counties. Cherokee County is predominately rural as 61% of the population lives in non-urban areas. The Spartanburg Nonattainment Area captures 85% of the point source  $\text{NO}_x$  emissions and 84% of the VOC point source emissions in the two counties. The largest  $\text{NO}_x$  point source in the six (6) county Upstate region (Oconee, Pickens, Anderson, Greenville, Spartanburg and Cherokee) is captured in the proposed nonattainment boundary. While this facility is not currently subject to the  $\text{NO}_x$  SIP Call requirements as it is a Phase II source, it is working with the Department as a part of the Early Action Compact process to move forward with controls equivalent to Phase II as expeditiously as possible. This proposed boundary captures 60% of the daily vehicle miles traveled and the 2025 estimate captures 58%. There are two ozone monitors representing air quality in this area. One is in Spartanburg County and another is located just across the Spartanburg County line in Cherokee County. This monitor is marginally exceeding the 8-hour ozone standard. Monitors located in adjoining counties southeast and east of the area indicate attainment of the standard, supporting the recommended

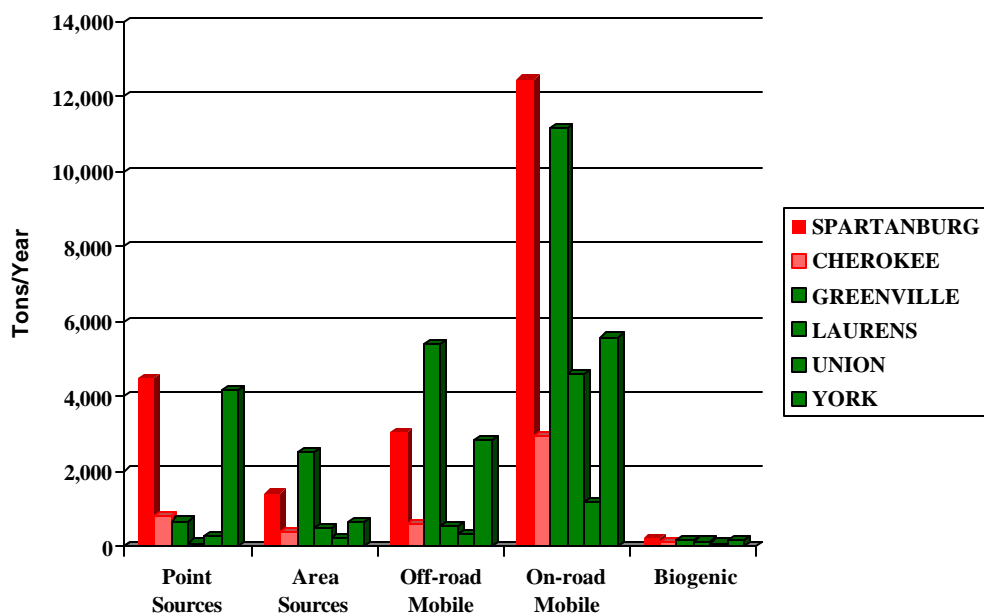
boundary.

The Department is submitting this document to provide detailed information pertaining to the factors which EPA suggested be addressed in support of any nonattainment area designation recommendations.

#### A. Emissions and Air Quality in Adjacent Areas (Including Adjacent MSAs)

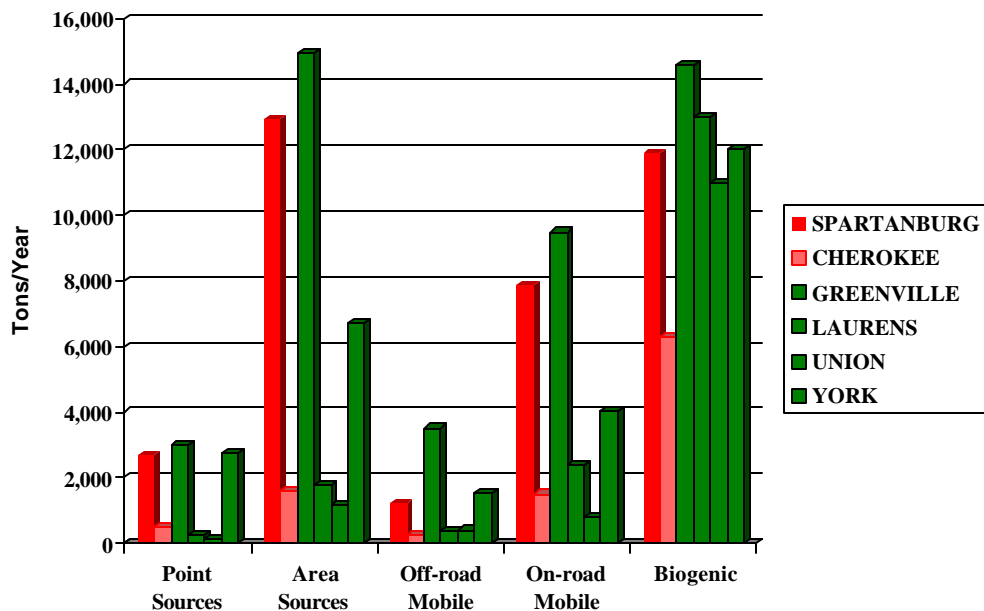
To evaluate the emissions in Spartanburg and Cherokee Counties and the adjacent areas, the Department utilized the estimated annual 1999 oxides of nitrogen (NO<sub>x</sub>) and volatile organic compounds (VOC) emissions. The types of NO<sub>x</sub> and VOC emission sources that were evaluated include point, area, biogenic, and on-road and off-road mobile sources. Figures A-1 and A-2 show the percentage of emissions from each source category for Spartanburg and Cherokee Counties and surrounding South Carolina Counties. Additional emissions inventory information is provided in Section D.

**Figure A-1: NO<sub>x</sub> Sources for Spartanburg, Cherokee and Adjacent Counties\***



\* Order of bars corresponds with order of counties in legend.

**Figure A-2: VOC Sources for Spartanburg, Cherokee and Adjacent Counties\***



\* Order of bars corresponds with order of counties in legend.

The Department has two ozone-monitoring sites in the Spartanburg Nonattainment Area with three years of data; both monitors indicate a violation of the air quality standard. Spartanburg and Cherokee Counties are both part of the Greenville – Spartanburg - Anderson MSA. Air quality information is provided in Section C.

## **B. Population Density and Degree of Urbanization Including Commercial Development (Significant Difference from Surrounding Areas)**

According to the US Census, urban is defined as all territory, population, and housing units in urbanized areas and urban clusters. An urbanized area is defined as a densely settled area that has a census population of at least 50,000, and an urban cluster is defined as a densely settled area that has a census population of 2,500 to 49,999. An urban area is a generic term that refers to both urbanized areas and urban clusters. Rural is defined as all territory, population, and housing units located outside of urbanized areas and urban clusters.

Spartanburg County is 811 square miles and had a population of 253,791 in 2000. The current population density is 313.0 persons per square mile. The county is nearly two-thirds urban, as 64.8 percent of the county's population, or 164,341 people, mostly live in urbanized areas.

The Spartanburg Nonattainment Area contains approximately 69.7% of the county's residents, or 176,796 persons, and covers 321.9 square miles. The population density of the Spartanburg

recommended area is 549.2 persons per square mile.

Cherokee County is 393 square miles and had a population of 52,537 in 2000. The current population density is 133.8 persons per square mile. The county is predominantly rural, as 38.7% percent of the county's population, or 20,307 people, live inside of an urban area.

The recommended area covers a portion of Cherokee County. It is estimated to cover 4 square miles. Using this land area and the population density of Cherokee County (133.8 persons per square mile), the recommended area in Cherokee County is approximated to have a population of 535.2.

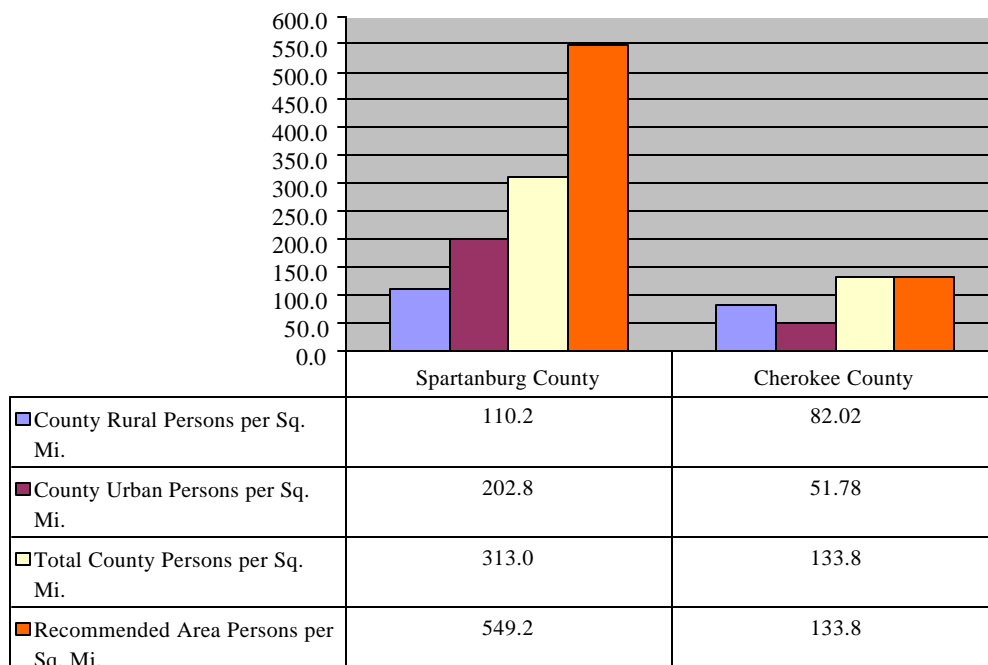
Table B-1 contains population data for Spartanburg and Cherokee Counties and their portions of the Spartanburg Nonattainment Area.

<b>Table B-1: Total Population, Land Area, and Urban/Rural Population, 2000</b>				
	<b>Spartanburg County</b>	<b>Spartanburg County Recommended Area</b>	<b>Cherokee County</b>	<b>Cherokee County Recommended Area</b>
Population <sup>1</sup>	253,791	176,796	52,537	535
Land Area (Square Miles) <sup>1</sup>	811	323.4	393	6
Persons per Square Mile <sup>1</sup>	313.0	546.7	133.8	133.8
Urban Population <sup>2</sup>	164,341	Unknown at this time	20,307	Unknown at this time
% Urban Population <sup>2</sup>	64.8%	Unknown at this time	38.7%	Unknown at this time
Rural Population <sup>2</sup>	89,450	Unknown at this time	32,230	Unknown at this time
% Rural Population <sup>2</sup>	35.2%	Unknown at this time	61.3%	Unknown at this time
* The data for the recommended areas is based on assumptions and is only estimates. The actual data may be greater than or less than the data provided.				

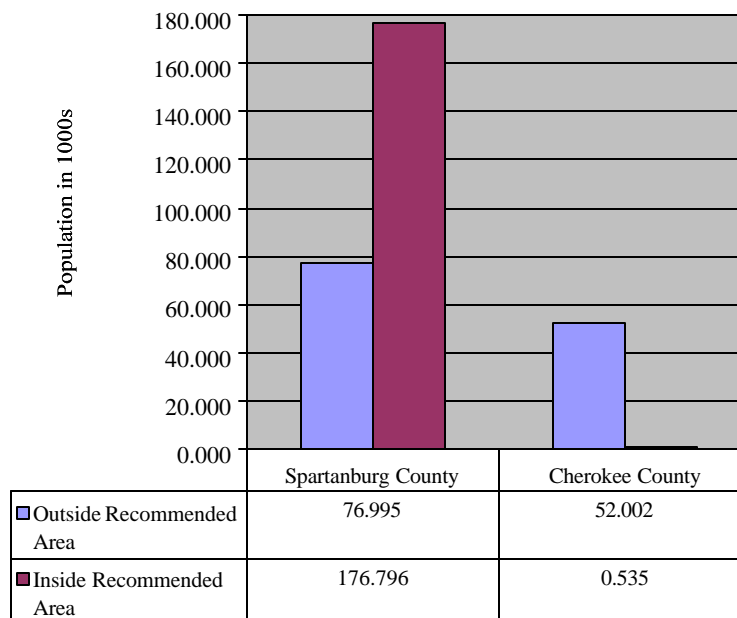
<sup>1</sup> Data provided by US Census: 2000 Portions of the data for the recommended area were obtained from the SC DOT.

<sup>2</sup> Data provided by SC Office of Research and Statistics.

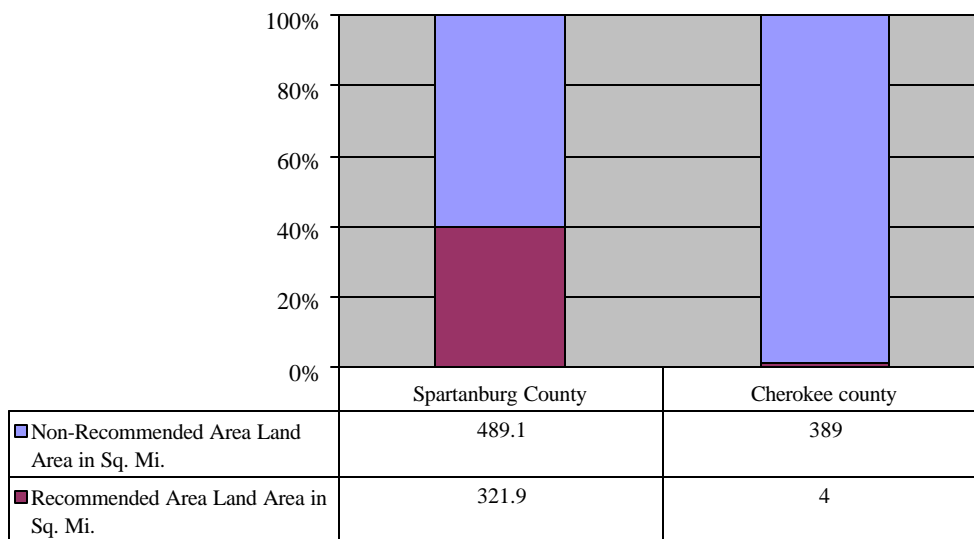
**Figure B-1: Population Density, 2000  
(Persons per Square Mile)**



**Figure B-2:  
Population Distribution  
Relative to Recommended Area Boundaries, 2000**



**Figure B-3: Land Area Distribution in Spartanburg County  
According to Recommended Area Boundaries, 2000**



Figures B-1, B-2, and B-3 show the population density distribution, land area distribution, and population distribution, respectively, for Spartanburg and Cherokee Counties relative to the Spartanburg Nonattainment Area boundaries.

According to the US Census, manufacturing is defined as the mechanical, physical, or chemical transformation of materials or substances into new products. The assembly of components into new products is also considered manufacturing, except when it is appropriately classified as construction. Establishments in the manufacturing sector are often described as plants, factories, or mills and typically use power-driven machines and materials-handling equipment. Also included in the manufacturing sector are some establishments that make products by hand, like custom tailors and the makers of custom draperies. While manufacturers typically do not sell to the public, some establishments like bakeries and candy stores that make products on the premises may be included. The retail trade sector comprises establishments engaged in retailing merchandise, generally without transformation, and rendering services incidental to the sale of merchandise.

Spartanburg County has various industry and businesses located throughout the county. Manufacturing is the county's largest employment sector as some 37,548 persons are employed at 385 manufacturing establishments throughout the county. The Spartanburg County portion of the recommended area contains 87.17% of the county's manufacturing employees and 88.31% of the county's manufacturing establishments. Retail trade is the county's second largest sector of employment as some 15,095 persons work at some 1,123 retail businesses throughout the county. Being the urban area in the county, the Spartanburg County portion of the Spartanburg Nonattainment Area boundary is assumed to contain the majority - both employees and establishments - of the manufacturing, retail, and other business in the county.

Being predominantly rural, Cherokee County has various industry and businesses located throughout

the county, but the largest business type in the county is manufacturing. Manufacturing in Cherokee County employs 10,551 persons at some 79 manufacturing establishments. Retail trade is the second largest county employer as 2,556 persons work at some 241 retail businesses. The town of Gaffney, which is approximately 10 miles from the Cowpens monitoring site, appears to contain the majority - both employees and establishments - of the manufacturing and other business in the county.

Tables B-2 and B-3 contain the manufacturing and retail trade data for Spartanburg and Cherokee Counties and the Spartanburg Nonattainment Area.

<b>Table B-2: Manufacturing Patterns in, 2000<sup>3</sup></b>			
<b>Spartanburg County</b>	<b>Recommended Area</b>	<b>County</b>	<b>% in Recommended Area</b>
Employees	32,730	37,548	87.17%
Establishments	340	385	88.31%
<b>Cherokee County</b>			
Employees		10,551	0.0%
Establishments		79	0.0%

<b>Table B-3: Retail Trade Patterns, 2000<sup>4</sup></b>		
	<b>Number of Employees</b>	<b>Number of Establishments</b>
Spartanburg County	15,095	1,123
Cherokee County	2,556	241

<sup>3</sup> Data from Bureau of Air Quality "SC Company File1.xls," based on 2001.

<sup>4</sup> Data provided by US Census: 2000.

**Figure B-4: Distribution of Manufacturing Employees in  
Spartanburg County According to Recommended Area  
Boundaries, 2000**

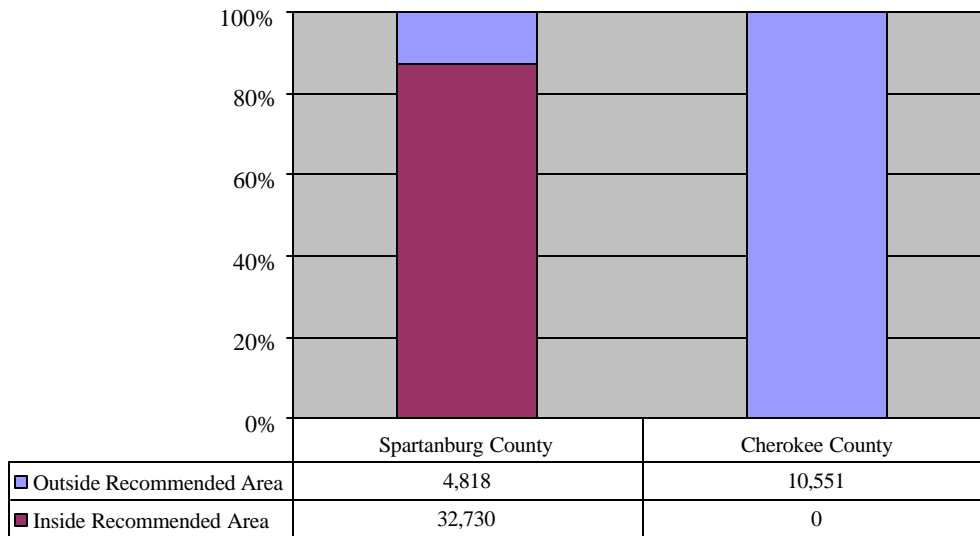


Figure B-4 shows the distribution of manufacturing employees relative to the recommended nonattainment boundaries.

### **C. Monitoring Data Representing Ozone Concentrations in Local Areas and Larger Areas (urban or regional scale)**

The Spartanburg Nonattainment Area map (Figure 1) shows the ozone monitoring stations in Spartanburg Nonattainment Area for 2003. There are neighboring monitors in York and Union Counties. The Spartanburg County ozone monitoring station (North Spartanburg Fire Station 45-083-0009) is off John Dodd Road. The site has been in operation since 1990. Ozone concentrations are measured from mid-March through mid-November. The area surrounding the monitoring site is residential and it is located approximately 265 meters above sea level. According to the South Carolina Department of Transportation (SCDOT) traffic count for 1993, five hundred (500) vehicles per day accessed the road next to the monitor. The monitoring objective for North Spartanburg Fire Station site is to measure the maximum ozone concentration.

The Cherokee County ozone monitoring station (Cowpens National Battle Ground 45-021-0002) is located off Highway 11. The site has been in operation since 1988 and measurement of ozone concentrations has run continuously since April of that year. The area surrounding the monitoring site is forest and it is located approximately 296 meters above sea level. According to SCDOT traffic count for 1993, one thousand (1,000) vehicles per day accessed the road. The monitoring objective for Cowpens National Battle Ground is to measure concentrations for upwind background.

The Union County ozone monitoring station (Delta 45-087-0001) is located off Highway 121. The site has been in operation since 1983 but the ozone monitoring station only runs mid-March through mid-



November. The area surrounding the monitoring site is rural and it is located approximately 113 meters above sea level. According to SCDOT traffic count for 1993, twenty-five (25) vehicles per day accessed the road. The monitoring objective for the Delta site is to measure ozone concentrations for general background.

The York County ozone monitoring station (York CMS 45-091-0006) is located off of US 321. The site began operating in March 1993. The site is situated in a field and much of the surrounding land is agricultural. The site is approximately 222 meters above sea level. According to SCDOT the traffic count along US 321 in 1993 was one thousand (1,000) vehicles per day. The monitoring objective for York CMS is to measure extreme downwind ozone concentrations relative to Charlotte-Mecklenburg, particularly when the predominant winds are out of the northeast.

Table C-1 presents the 2000 through 2002 8-hour ozone monitoring data for Spartanburg, Cherokee, Union, and York Counties. The design value is the annual fourth-highest daily maximum 8-hour ozone concentration, expressed in parts per million (ppm), averaged over three consecutive years. Since the 2002 ozone design values for the North Spartanburg Fire Station and Cowpens National Battleground monitoring sites are 0.090 ppm and 0.087 ppm respectively, both sites are marginally exceeding the 8-hour ozone standard. The Union and York monitors indicate attainment with the 8-hour ozone standard.

<b>Table C-1: Spartanburg and Surrounding Area Ozone Monitoring Data</b>						
County	Site ID	Site Name	4 <sup>th</sup> Maximum 8-Hour			Design Value
			2000	2001	2002	
Spartanburg	45-083-0009	North Spartanburg Fire Station	0.089	0.090	0.093	0.090
Union	45-087-0001	Delta	0.079	0.079	0.085	0.081
Cherokee	45-023-0002	Cowpens National Battle Ground	0.088	0.080	0.093	0.087
York	45-091-0006	York CMS	0.076	0.080	0.096	0.084

Table C-2 contains the 2000 through 2002 daily maximum ozone concentrations above 0.084 ppm for Spartanburg, Cherokee, Union, and York monitoring sites. A period indicates no exceedance occurred on the same day at that location.

<b>Table C-2: North Spartanburg Fire Station, Cowpens National Battle Ground, and Delta Sites</b>				
Date of Exceedance	Spartanburg Daily Maximum 8-hour Average ppm	Union Daily Maximum 8-hour Average ppm	Cherokee Daily Maximum 8-hour Average ppm	York Daily Maximum 8-hour Average ppm
06/01/2000	0.085	.	.	.
06/02/2000	0.089	0.087	0.085	.

**Table C-2:  
North Spartanburg Fire Station, Cowpens National Battle Ground, and Delta Sites**

Date of Exceedance	Spartanburg Daily Maximum 8-hour Average ppm	Union Daily Maximum 8-hour Average ppm	Cherokee Daily Maximum 8-hour Average ppm	York Daily Maximum 8-hour Average ppm
06/09/2000	0.086	.	.	.
06/12/2000	0.091	.	.	.
07/19/2000	0.086	.	.	.
08/10/2000	0.097	.	.	.
08/17/2000	0.1	.	.	.
10/05/2000	0.089	.	.	.
<b>2000 Total Hits</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>0</b>
05/04/2001	0.085	.	.	.
05/05/2001	0.09	.	.	.
05/30/2001	0.085	.	.	.
06/18/2001	0.088	.	.	.
06/20/2001	0.094	.	.	.
07/12/2001	0.093	.	.	.
07/16/2001	0.086	.	.	.
07/18/2001	0.09	.	.	.
08/14/2001	.	.	0.091	.
08/23/2001	0.089	.	.	.
08/25/2001	.	.	0.085	.
<b>2001 Total Hits</b>	<b>9</b>	<b>0</b>	<b>2</b>	<b>0</b>
05/24/2002	0.098	0.088	.	.
05/25/2002	0.085	.	.	0.087
06/03/2002	0.088	.	.	0.085
06/10/2002	0.088	.	0.091	0.096
06/11/2002	0.107	.	.	.
06/12/2002	.	.	0.086	0.092

**Table C-2:  
North Spartanburg Fire Station, Cowpens National Battle Ground, and Delta Sites**

Date of Exceedance	Spartanburg Daily Maximum 8-hour Average ppm	Union Daily Maximum 8-hour Average ppm	Cherokee Daily Maximum 8-hour Average ppm	York Daily Maximum 8-hour Average ppm
06/13/2002	0.093	0.096	0.09	0.089
06/18/2002	0.085	.	.	.
06/19/2002	0.092	.	.	.
06/20/2002	0.086	.	.	.
06/29/2002	.	.	0.085	.
07/02/2002	.	.	0.089	.
07/03/2002	0.086	.	0.088	.
07/06/2002	0.088	.	0.085	.
07/08/2002	0.091	.	0.093	0.089
07/09/2002	0.087	.	.	.
07/17/2002	.	.	0.102	0.101
07/18/2002	.	.	0.085	.
07/31/2002	.	.	0.09	0.088
08/01/2002	0.085	.	.	0.086
08/02/2002	.	.	0.09	0.098
08/05/2002	.	.	0.096	0.095
08/09/2002	0.09	.	0.087	0.086
08/10/2002	0.093	.	.	0.085
08/11/2002	0.093	.	.	.
08/12/2002	0.1	.	.	.
08/21/2002	.	0.085	0.098	0.098
08/23/2002	.	0.086	0.085	0.087
09/05/2002	0.093	.	.	.
<b>2002 Total Hits</b>	<b>19</b>	<b>4</b>	<b>16</b>	<b>15</b>

## D. Location of Emission Sources

Table D-1 lists the NO<sub>x</sub> point sources that are in operation within Cherokee and Spartanburg Counties based on the 1999 NO<sub>x</sub> and VOC emissions inventory iSteps data. Cherokee County has 17 NO<sub>x</sub> point sources in operation. None of these point sources are located within the nonattainment area. Spartanburg County has 59 NO<sub>x</sub> point sources in operation and 47 of these point sources are located within the nonattainment area. Facilities in **Red** are within the proposed boundary; facilities in Black are outside the proposed boundary.

<b>Table D-1: Cherokee &amp; Spartanburg Counties Point Source NO2 Emissions</b>				
<b>County</b>	<b>Plant Name</b>	<b>Permit Number</b>	<b>Pollutant</b>	<b>Point Source-NO2 (Tons Per Year)</b>
Cherokee	Boren Clay Products - Blacksburg Plt	0600-0005	NO2	10.83
Cherokee	Broad River Energy LLC	0600-0076	NO2	294.18
Cherokee	Cherokee Cogeneration	0600-0060	NO2	54.40
Cherokee	Core Materials Corp	0600-0068	NO2	2.79
Cherokee	Hamrick Industries: Plant 5	0600-0036	NO2	1.74
Cherokee	Hamrick Mills: Hamrick Plant	0600-0004	NO2	1.43
Cherokee	Hamrick Mills: Musgrove	0600-0062	NO2	1.36
Cherokee	IFCO ICS-South Carolina Inc	0600-0055	NO2	0.94
Cherokee	Industrial Minerals	0600-0039	NO2	3.34
Cherokee	Linpac Paper	0600-0044	NO2	57.28
Cherokee	Milliken Chemical: Cypress	0600-0040	NO2	0.20
Cherokee	Milliken: Magnolia	0600-0007	NO2	244.06
Cherokee	Nestle Frozen Foods	0600-0033	NO2	25.88
Cherokee	SC Pipeline: Blacksburg	0600-0065	NO2	23.14
Cherokee	Springfield LLC: Limestone	0600-0014	NO2	1.62
Cherokee	Timken Co, The	0600-0009	NO2	27.69
Cherokee	TNS Mills: Gaffney	0600-0054	NO2	1.55
	<b>1999 Cherokee Co Total</b>			<b>752.43</b>
	<b>Emissions in Nonattainment Area-Total</b>			<b>0.0</b>
	<b>Emissions in Nonattainment Area-Percent</b>			<b>0.0%</b>
Spartanburg	Asphalt Associates	9900-0023	NO2	0.77
Spartanburg	Asphalt Contractors LLC	9900-0152	NO2	4.94
Spartanburg	BASF: Spartanburg	2060-0068	NO2	7.51
Spartanburg	Bayer Corp: Wellford	2060-0055	NO2	7.41
Spartanburg	Blackman Uhler Chemical	2060-0029	NO2	17.85
Spartanburg	BMW Manufacturing Corp	2060-0230	NO2	27.58
Spartanburg	Bommer Industries: Landrum	2060-0119	NO2	1.22
Spartanburg	Cooper Standard Automotive	2060-0088	NO2	0.00
Spartanburg	Crown Cork & Seal: Spartanburg	2060-0077	NO2	4.61
Spartanburg	Donnelley, RR & Sons	2060-0081	NO2	0.13
Spartanburg	Eastman Chemical Company	2060-0051	NO2	0.05
Spartanburg	Exopack LLC	2060-0075	NO2	7.76

**Table D-1: Cherokee & Spartanburg Counties Point Source NO2 Emissions**

County	Plant Name	Permit Number	Pollutant	Point Source-NO2 (Tons Per Year)
Spartanburg	F & R Asphalt: Plant #1	9900-0090	NO2	3.34
Spartanburg	Goodyear: Spartanburg	2060-0035	NO2	2.58
Spartanburg	Hoke Inc	2060-0175	NO2	1.30
Spartanburg	Inman Mills: Ramey Plant	2060-0271	NO2	3.87
Spartanburg	Inman Mills: Saybrook	2060-0042	NO2	2.71
Spartanburg	Intelicoat Technologies	2060-0182	NO2	7.80
Spartanburg	ISG Resources Inc	2060-0025	NO2	4.34
Spartanburg	Johns Manville	2060-0344	NO2	0.00
Spartanburg	King Asphalt: # 4	9900-0352	NO2	1.21
Spartanburg	Kohler Co: Plastics Plant	2060-0071	NO2	21.66
Spartanburg	Kosa: Arteva Specialties	2060-0345	NO2	258.74
Spartanburg	Leigh Fibers Inc	2060-0084	NO2	0.04
Spartanburg	Mack Molding Co	2060-0061	NO2	0.09
Spartanburg	Mary Black Memorial Hospital	2060-0121	NO2	3.10
Spartanburg	MEMC Electronic Materials	2060-0070	NO2	0.59
Spartanburg	Metromont: Hwy 101	9900-0166	NO2	0.00
Spartanburg	Metromont: Spartanburg I-85	2060-0038	NO2	0.01
Spartanburg	Michelin: Spartanburg	2060-0065	NO2	23.95
Spartanburg	Milliken Chemical: Dewey	2060-0001	NO2	6.87
Spartanburg	Milliken: Cotton Blossom-Plant	2060-0288	NO2	0.24
Spartanburg	Milliken: Research	2060-0022	NO2	4.34
Spartanburg	Mohawk: Landrum	2060-0012	NO2	2.19
Spartanburg	Mount Vernon Mills: Arkwright	2060-0028	NO2	1.40
Spartanburg	National Starch & Chemical Company	2060-0085	NO2	10.14
Spartanburg	Palmetto Landfill & Recycling Ctr	2060-0221	NO2	28.21
Spartanburg	Palmetto Vermiculite	2060-0181	NO2	1.22
Spartanburg	Phelps Dodge	2060-0086	NO2	0.83
Spartanburg	Piedmont Concrete: Duncan	9900-0282	NO2	0.02
Spartanburg	Piedmont Dielectrics	2060-0108	NO2	0.06
Spartanburg	Reeves Brothers: Fairforest	2060-0019	NO2	5.64
Spartanburg	Reeves Brothers: Spartanburg	2060-0262	NO2	3.24
Spartanburg	Saxon Fibers LLC	2060-0039	NO2	6.44
Spartanburg	Sew Eurodrive	2060-0167	NO2	0.00
Spartanburg	Sloan Construction: Lyman	9900-0115	NO2	4.60
Spartanburg	Sloan Construction: Pacolet	9900-0091	NO2	6.30
Spartanburg	Spartanburg Automotive Products	2060-0007	NO2	1.45
Spartanburg	Spartanburg Hospital Restoration Care	2060-0128	NO2	0.29
Spartanburg	Spartanburg Regional Medical Center	2060-0142	NO2	32.72
Spartanburg	Spartanburg Stainless Products	2060-0348	NO2	1.45
Spartanburg	Springs Industries: Lyman	2060-0018	NO2	22.93
Spartanburg	Steris-Isomedix Services	2060-0180	NO2	1.78
Spartanburg	Tietex International Ltd	2060-0147	NO2	6.63
Spartanburg	TNS Mills: Spartanburg	2060-0079	NO2	1.17

Table D-1: Cherokee & Spartanburg Counties Point Source NO2 Emissions				
County	Plant Name	Permit Number	Pollutant	Point Source-NO2 (Tons Per Year)
Spartanburg	Transcontinental Gas Pipe Line	2060-0179	NO2	3,881.99
Spartanburg	Transmontaigne: Spartanburg-SE	2060-0134	NO2	2.04
	<b>1999 Spartanburg Co Total</b>			<b>4,456.92</b>
	<b>Emissions in Nonattainment Area-Total</b>			<b>4,420.97</b>
	<b>Emissions in Nonattainment Area-Percent</b>			<b>99.2%</b>

Table D-2 lists the VOC point sources that are in operation in Cherokee and Spartanburg Counties based on the 1999 NO<sub>x</sub> and VOC emissions inventory iSteps data. Cherokee County has 20 NO<sub>x</sub> point sources in operation. None of these point sources are located within the nonattainment area. Spartanburg County has 69 VOC point sources in operation and 53 of these point sources are located within the nonattainment area.

Table D-2: Cherokee & Spartanburg Counties Point Source VOC Emissions				
County	Plant Name	Permit Number	Pollutant	Point Source-VOC (Tons Per Year)
Cherokee	Alcoa Home Exteriors Inc	0600-0016	VOC	145.00
Cherokee	Boren Clay Products - Blacksburg Plt	0600-0005	VOC	0.74
Cherokee	Broad River Energy LLC	0600-0076	VOC	0.71
Cherokee	Cherokee Cogeneration	0600-0060	VOC	4.30
Cherokee	Core Materials Corp	0600-0068	VOC	9.91
Cherokee	Freightliner Custom Chassis	0600-0049	VOC	0.79
Cherokee	Hamrick Industries: Plant 5	0600-0036	VOC	13.31
Cherokee	Hamrick Mills: Hamrick Plant	0600-0004	VOC	0.66
Cherokee	Hamrick Mills: Musgrove	0600-0062	VOC	0.73
Cherokee	IFCO ICS-South Carolina Inc	0600-0055	VOC	55.00
Cherokee	Industrial Minerals	0600-0039	VOC	0.03
Cherokee	Linpac Paper	0600-0044	VOC	4.33
Cherokee	Milliken Chemical: Cypress	0600-0040	VOC	31.69
Cherokee	Milliken: Magnolia	0600-0007	VOC	133.60
Cherokee	Nestle Frozen Foods	0600-0033	VOC	0.45
Cherokee	Sanders Bros Metals	0600-0052	VOC	5.07
Cherokee	SC Pipeline: Blacksburg	0600-0065	VOC	0.15
Cherokee	Springfield LLC: Limestone	0600-0014	VOC	3.03
Cherokee	Timken Co, The	0600-0009	VOC	1.23
Cherokee	TNS Mills: Gaffney	0600-0054	VOC	1.90
	<b>1999 Cherokee Co Total</b>			<b>412.63</b>
	<b>Emissions in Nonattainment Area-Total</b>			<b>0.0</b>
	<b>Emissions in Nonattainment Area-Percent</b>			<b>0.0%</b>

Table D-2: Cherokee & Spartanburg Counties Point Source VOC Emissions				
County	Plant Name	Permit Number	Pollutant	Point Source-VOC (Tons Per Year)
Spartanburg	American Fast Print	2060-0026	VOC	73.35
Spartanburg	Appalachian Engineered Hardwood Flooring	2060-0299	VOC	0.11
Spartanburg	Asphalt Associates	9900-0023	VOC	0.43
Spartanburg	Asphalt Contractors LLC	9900-0152	VOC	0.02
Spartanburg	BASF: Spartanburg	2060-0068	VOC	1.35
Spartanburg	Bayer Corp: Wellford	2060-0055	VOC	7.35
Spartanburg	Blackman Uhler Chemical	2060-0029	VOC	3.72
Spartanburg	BMW Manufacturing Corp	2060-0230	VOC	58.05
Spartanburg	Bommer Industries: Landrum	2060-0119	VOC	5.91
Spartanburg	Citgo: Spartanburg	2060-0101	VOC	26.60
Spartanburg	Color Converting Ind	2060-0199	VOC	7.93
Spartanburg	Conocophillips Company	2060-0096	VOC	13.38
Spartanburg	Cooper Standard Automotive	2060-0088	VOC	2.02
Spartanburg	Crown Central Petroleum	2060-0094	VOC	12.65
Spartanburg	Crown Cork & Seal: Spartanburg	2060-0077	VOC	152.00
Spartanburg	Donnelley, RR & Sons	2060-0081	VOC	137.49
Spartanburg	Dot Packaging-Printpak	2060-0215	VOC	30.49
Spartanburg	Eastman Chemical Company	2060-0051	VOC	0.01
Spartanburg	Exopack LLC	2060-0075	VOC	170.71
Spartanburg	F & R Asphalt: Plant #1	9900-0090	VOC	0.02
Spartanburg	Goodyear: Spartanburg	2060-0035	VOC	154.65
Spartanburg	Hoke Inc	2060-0175	VOC	0.03
Spartanburg	INA USA Corp: Plant IV	2060-0107	VOC	0.00
Spartanburg	Inman Mills: Ramey Plant	2060-0271	VOC	2.01
Spartanburg	Inman Mills: Saybrook	2060-0042	VOC	0.64
Spartanburg	Intelicoat Technologies	2060-0182	VOC	126.34
Spartanburg	ISG Resources Inc	2060-0025	VOC	0.16
Spartanburg	Johns Manville	2060-0344	VOC	0.00
Spartanburg	King Asphalt: # 4 - New	9900-0352	VOC	1.85
Spartanburg	Kohler Co: Plastics Plant	2060-0071	VOC	204.41
Spartanburg	Kosa: Arteva Specialties	2060-0345	VOC	72.89
Spartanburg	Leigh Fibers Inc	2060-0084	VOC	0.00
Spartanburg	Mack Molding Co	2060-0061	VOC	62.75
Spartanburg	Mary Black Memorial Hospital	2060-0121	VOC	0.13
Spartanburg	MEMC Electronic Materials	2060-0070	VOC	0.45
Spartanburg	Metromont: Hwy 101	9900-0166	VOC	0.00
Spartanburg	Metromont: Spartanburg I-85	2060-0038	VOC	0.00
Spartanburg	Michelin: Duncan	2060-0183	VOC	10.41
Spartanburg	Michelin: Spartanburg	2060-0065	VOC	537.00

Table D-2: Cherokee & Spartanburg Counties Point Source VOC Emissions				
County	Plant Name	Permit Number	Pollutant	Point Source-VOC (Tons Per Year)
Spartanburg	Milliken Chemical: Dewey	2060-0001	VOC	19.31
Spartanburg	Milliken: Cotton Blossom-Plant	2060-0288	VOC	1.26
Spartanburg	Milliken: Research	2060-0022	VOC	0.17
Spartanburg	Mohawk: Landrum	2060-0012	VOC	2.20
Spartanburg	Motiva Enterprises LLC	2060-0097	VOC	46.91
Spartanburg	Mount Vernon Mills: Arkwright	2060-0028	VOC	0.08
Spartanburg	National Starch & Chemical Company	2060-0085	VOC	35.06
Spartanburg	Palmetto Landfill & Recycling Ctr	2060-0221	VOC	9.86
Spartanburg	Palmetto Vermiculite	2060-0181	VOC	0.07
Spartanburg	Phelps Dodge	2060-0086	VOC	0.05
Spartanburg	Phillips Pipeline: Spartanburg	2060-0056	VOC	24.81
Spartanburg	Piedmont Concrete: Duncan	9900-0282	VOC	0.00
Spartanburg	Piedmont Dielectrics	2060-0108	VOC	3.02
Spartanburg	Reeves Brothers: Fairforest	2060-0019	VOC	49.99
Spartanburg	Reeves Brothers: Spartanburg	2060-0262	VOC	0.29
Spartanburg	Saxon Fibers LLC	2060-0039	VOC	39.34
Spartanburg	Sew Eurodrive	2060-0167	VOC	0.00
Spartanburg	Sloan Construction: Lyman	9900-0115	VOC	0.02
Spartanburg	Sloan Construction: Pacolet	9900-0091	VOC	0.03
Spartanburg	Spartanburg Automotive Products	2060-0007	VOC	0.08
Spartanburg	Spartanburg Hospital Restoration Care	2060-0128	VOC	0.02
Spartanburg	Spartanburg Regional Medical Center	2060-0142	VOC	2.00
Spartanburg	Spartanburg Stainless Products	2060-0348	VOC	0.59
Spartanburg	Springs Industries: Lyman	2060-0018	VOC	41.63
Spartanburg	Steris-Isomedix Services	2060-0180	VOC	2.68
Spartanburg	Tietex International Ltd	2060-0147	VOC	25.72
Spartanburg	TNS Mills: Spartanburg	2060-0079	VOC	0.94
Spartanburg	Transcontinental Gas Pipe Line	2060-0179	VOC	144.34
Spartanburg	Transmontaigne: Spartanburg-PD	2060-0098	VOC	26.41
Spartanburg	Transmontaigne: Spartanburg-SE	2060-0134	VOC	33.29
	<b>1999 Spartanburg Co Total</b>			<b>2,387.48</b>
	<b>Emissions in Nonattainment Area-Total</b>			<b>2,330.96</b>
	<b>Emissions in Nonattainment Area-Percent</b>			<b>97.6%</b>



Table D-3 lists the NO<sub>x</sub> on-road emissions for Spartanburg County and Table D-4 lists the VOC on-road emissions.

<b>Table D- 3: Spartanburg County On-road NO<sub>x</sub> Emissions</b>			
<b>County</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Highway NO<sub>x</sub> (Tons Per Year)</b>
Spartanburg	11-Highway Vehicles	01-Light-Duty Gas Vehicles & Motorcycles	4,150.00
Spartanburg	11-Highway Vehicles	02-Light-Duty Gas Trucks	2,287.00
Spartanburg	11-Highway Vehicles	03-Heavy-Duty Gas Vehicles	604.00
Spartanburg	11-Highway Vehicles	04-Diesels	5,427.00
	<b>1999 Spartanburg Co Total</b>		<b>12,468.00</b>

<b>Table D-4: Spartanburg County On-road VOC Emissions</b>			
<b>County</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Highway VOC (Tons Per Year)</b>
Spartanburg	11-Highway Vehicles	01-Light-Duty Gas Vehicles & Motorcycles	4,425.00
Spartanburg	11-Highway Vehicles	02-Light-Duty Gas Trucks	2,516.00
Spartanburg	11-Highway Vehicles	03-Heavy-Duty Gas Vehicles	595.00
Spartanburg	11-Highway Vehicles	04-Diesels	340.00
	<b>1999 Spartanburg Co Total</b>		<b>7,876.00</b>

## E. Traffic and Commuting Patterns

Estimates of the Daily Vehicle Miles Traveled (DVMT) were obtained from the South Carolina Department of Transportation (SCDOT). SCDOT determines current DVMT by multiplying traffic volume (through traffic counts) and lane miles (determined by the Highway Performance Monitoring System) for each particular area. The South Carolina Department of Public Safety, Division of Motor Vehicles, provided motor vehicle registration data. All other data in this section was obtained from the US Census Bureau. All data is based on the year 2000.

Table E-1 shows that the Spartanburg Nonattainment Area captured 59.37% of the DVMT in 2000 and will capture 57.19% of the DVMT in 2025.

<b>Table E-1: DVMT for Spartanburg Nonattainment Area.<sup>5</sup></b>				
<b>County</b>	<b>2000 DVMT</b>	<b>2025 DVMT</b>	<b>DVMT Change (2000-2025)</b>	<b>Projected % Annual Change</b>
Spartanburg	8,041,582	13,086,740	5,045,158	2.51
Cherokee	2,063,088	3,303,152	1,240,064	2.40
County Totals	10,104,670	16,389,892	6,285,222	2.49

<sup>5</sup> Data provided from SCDOT.

<b>Table E-1: DVMT for Spartanburg Nonattainment Area.<sup>5</sup></b>				
County	2000 DVMT	2025 DVMT	DVMT Change (2000-2025)	Projected % Annual Change
Spartanburg Nonattainment Total <sup>6</sup>	5,999,515	9,373,126	3,373,611	2.25
% Captured Inside Nonattainment Boundary	59.37	57.19		

Figure 1 shows the Interstates that are located within the Spartanburg Nonattainment Area. There are two interstates, I-26 and I-85, with I-26 being the major corridor of travel between Spartanburg and Columbia, South Carolina and I-85 being the major corridor of travel between Spartanburg and Greenville, South Carolina. Additionally, there are three other major routes of travel through Spartanburg and Cherokee Counties. They include US Highways 29, 221 and 176. There are also numerous state roads and secondary state roads in the county that connect the larger towns together.

Table E-2 presents the breakdown by road classifications of DVMT traveled in the Spartanburg Nonattainment Area boundary counties from 2000 and projected through 2025.

<b>Table E-2: DVMT Data for Spartanburg Nonattainment Area</b>				
	<b>2000</b>	<b>Projected 2007</b>	<b>Projected 2012</b>	<b>Projected 2025</b>
<b>Spartanburg County</b>				
Rural Interstate (01)	2,395,210	3,044,958	3,509,064	4,715,740
Rural Principal Arterial (02)	137,290	152,821	160,853	188,254
Rural Minor Arterial (03)	984,884	1,096,301	1,153,919	1,350,484
Rural Major Collector (04)	1,194,093	1,329,176	1,399,034	1,637,353
Rural Minor Collector (05)	177,077	197,109	207,468	242,809
Rural Local (09)	264,722	294,669	310,155	362,989
<i>Rural Total</i>	<i>5,153,275</i>	<i>6,115,034</i>	<i>6,740,494</i>	<i>8,497,628</i>
Urban Interstate (11)	524,281	754,792	919,442	1,347,534
Urban Freeway/Expressway (12)	162,742	181,152	190,673	223,154
Urban Principal Arterial (13)	871,282	969,847	1,020,819	1,194,711
Urban Minor Arterial (14)	657,734	732,141	770,620	901,892
Urban Collector (15)	565,477	629,448	662,530	775,389
Urban Local (18)	106,791	118,872	125,119	146,433
<i>Urban Total</i>	<i>2,888,307</i>	<i>3,386,253</i>	<i>3,689,204</i>	<i>4,589,111</i>
<b>Grand Total DVMT</b>	<b>8,041,582</b>	<b>9,501,287</b>	<b>10,429,698</b>	<b>13,086,740</b>
<b>Cherokee County</b>				
Rural Interstate (01)	700,699	1,022,864	1,248,380	1,409,462
Rural Principal Arterial (02)	29,480	44,911	50,318	53,215
Rural Minor Arterial (03)	197,204	235,062	263,364	278,527

<sup>6</sup> Spartanburg Nonattainment Area totals based on MPO figures and may reflect an underestimation of the total percent captured by the boundary.

<b>Table E-2: DVMT Data for Spartanburg Nonattainment Area</b>				
	<b>2000</b>	<b>Projected 2007</b>	<b>Projected 2012</b>	<b>Projected 2025</b>
Rural Major Collector (04)	262,894	315,400	353,375	373,721
Rural Minor Collector (05)	22,715	31,875	35,713	37,769
Rural Local (09)	116,298	187,725	210,327	222,437
<i>Rural Total</i>	<i>1,329,289</i>	<i>1,837,837</i>	<i>2,161,478</i>	<i>2,375,132</i>
Urban Interstate (11)	-	-	-	-
Urban Freeway/Expressway (12)	-	-	-	-
Urban Principal Arterial (13)	62,444	-	-	-
Urban Minor Arterial (14)	90,338	97,669	109,429	115,729
Urban Collector (15)	22,273	67,539	75,671	80,028
Urban Local (18)	33,662	60,043	67,272	71,145
<i>Urban Total</i>	<i>208,716</i>	<i>225,251</i>	<i>252,372</i>	<i>266,902</i>
<b>Grand Total DVMT</b>	<b>1,538,006</b>	<b>2,063,088</b>	<b>2,413,849</b>	<b>2,642,034</b>

Table E-3<sup>7</sup> presents the 2000 worker flow data from each of the counties. Some counties that are listed on this table are not being considered for boundary recommendations and are being included on this chart to account for all workers in each county. This table shows that approximately 82% of workers that live in Spartanburg County work inside the county. Of the residents that work outside of Spartanburg County, approximately 76% commute to the neighboring counties of Cherokee or Greenville, and approximately 10% work out of the state. Table E-3 shows that approximately 70% of workers that live in Cherokee County work inside of the county. Of the residents that work outside of Cherokee County, approximately 57% commute to the neighboring county of Spartanburg, and approximately 27% commute out of state.

<b>TableE-3: Where people work who live in SC</b>				
<b>County Worked In</b>	<b>County of Residence</b>			
	<b>Cherokee</b>	<b>Spartanburg</b>	<b>Out of State</b>	<b>Grand Total</b>
Grand Total	22,999	117,096	6,102	146,197
Aiken	6	20		26
Anderson	31	480		511
Beaufort		16		16
Berkeley	30	15		45
Charleston	52	70		122
Cherokee	16,052	2,029	1,897	19,978
Chester	17	27		44
Colleton		25		25
Darlington	4	8		12
Dorchester	20			20
Fairfield		33		33
Florence	8			8
Georgetown		8		8
Greenville	431	14,586		15,017

<sup>7</sup> Data provided from US Census:2000.

TableE-3: Where people work who live in SC				
County Worked In	County of Residence			
	Cherokee	Spartanburg	Out of State	Grand Total
Greenwood	18	226		244
Horry		31		31
Kershaw	6			6
Lancaster	25	20		45
Laurens	26	703		729
Lexington	12	23		35
Newberry		22		22
Oconee	11	112		123
Orangeburg		6		6
Out of State	1,874	2,212		4,086
Pickens	16	198		214
Richland	8	71		79
Spartanburg	3,937	95,496	4,205	103,638
Sumter		7		7
Union	141	522		663
York	274	130		404

Figure E-1: Spartanburg and Cherokee Counties: Time Leaving Home to Go to Work

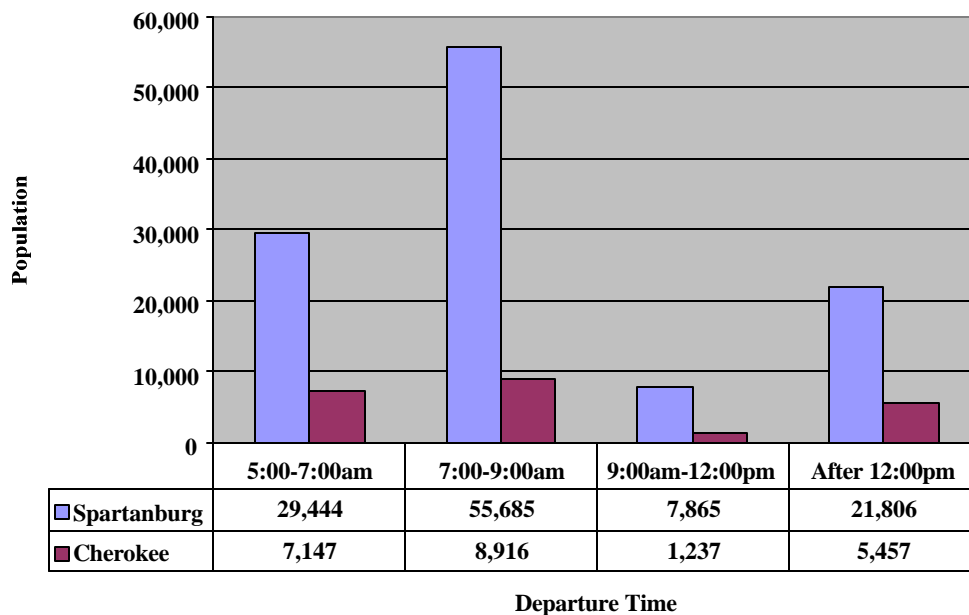
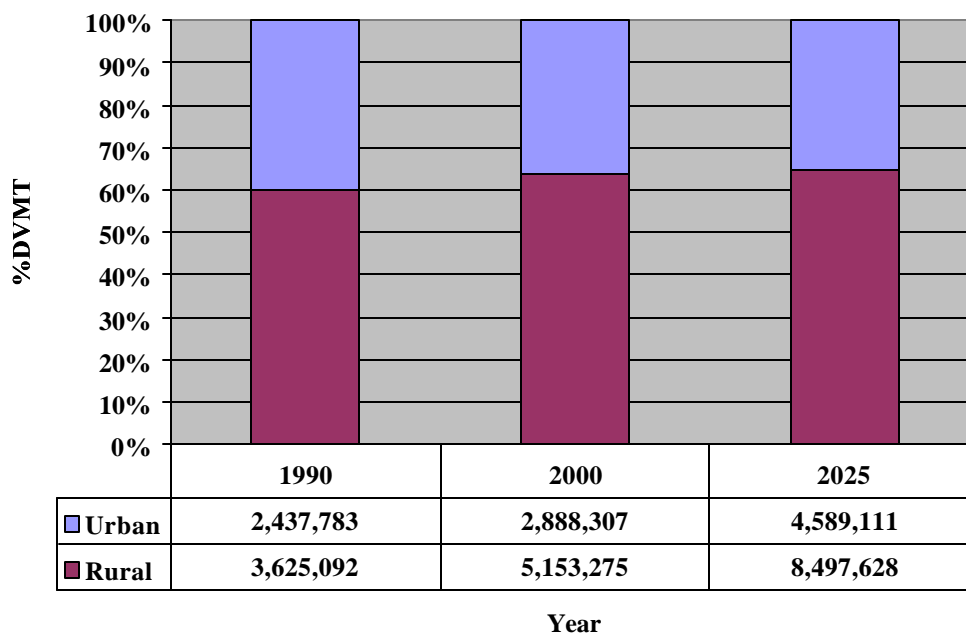


Figure E-1<sup>8</sup> presents the departure times for workers in Spartanburg County. The figure shows that the largest amount of traffic occurs between 7:00 am to 9:00 am. It should also be noted that ozone formation is believed to begin formation in this area starting around the morning hours and continuing throughout the day until sunset. This is important (since the majority of the traffic is contributed from Spartanburg County and this traffic occurs during the typical start of ozone formation) because it suggests that the mobile source emission of NO<sub>x</sub> and VOC that help contribute to the ozone formation is mainly from the commuters that reside inside the Spartanburg Nonattainment Area.

**Figure E-2: Urban vs. Rural DVMT for Spartanburg County**

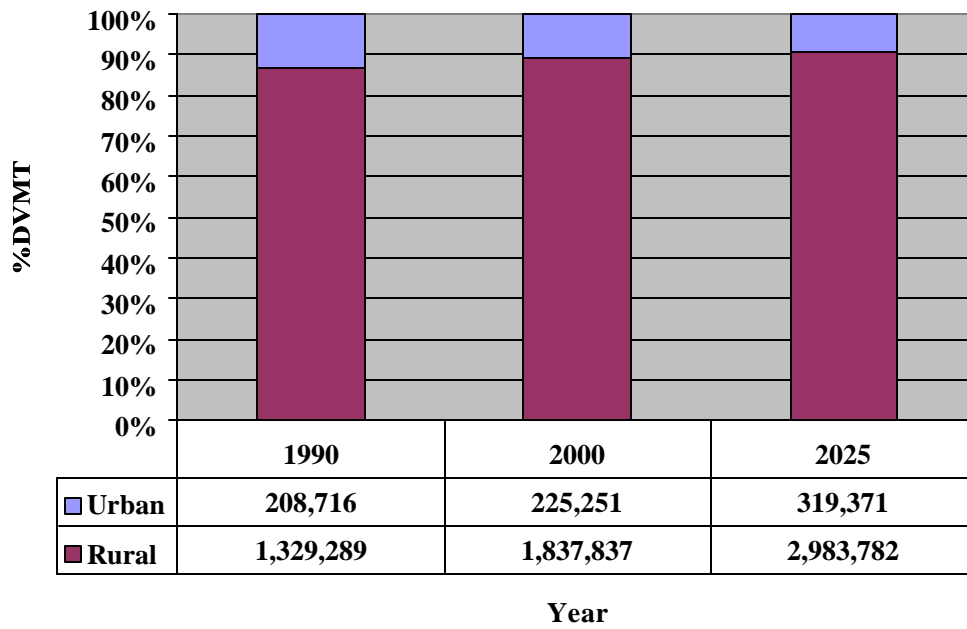


Figures E-2<sup>9</sup> and E-3 show that there are moderate amounts of DVMT in Spartanburg County and minimal amounts in Cherokee County.

<sup>8</sup> Data provided from US Census:2000.

<sup>9</sup> Data provided from US Census:2000.

**Figure E-3: Urban vs. Rural DVMT for Cherokee County**



**Figure E-4: 2000 Motor Vehicle Registration for Spartanburg and Cherokee Counties**

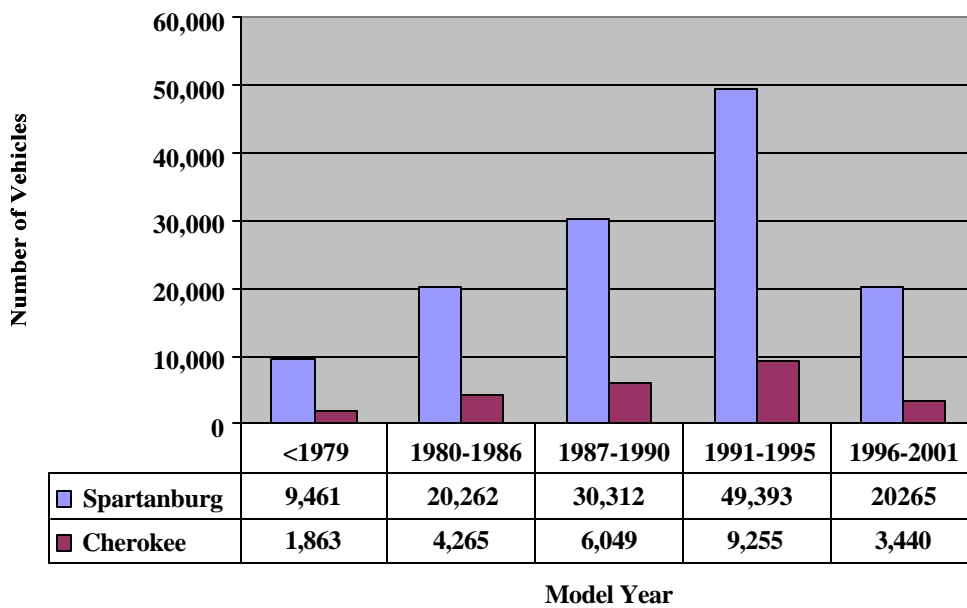


Figure E-4<sup>10</sup> presents the motor vehicle registration data for Spartanburg and Cherokee Counties. Only a small portion of the vehicles are pre-1981 model years. In 1981 new cars were outfitted with three-way catalysts, on-board computers, and oxygen sensors to help increase the efficiency of the catalytic converters. This figure shows that the majority of cars registered are model years 1991-1995. In 1991 the EPA established lower tailpipe standards for hydrocarbons and nitrogen oxides beginning with 1994 model year vehicles.

This data reflects 2000 registration figures, and many vehicle owners will elect to replace vehicles with newer vehicles in the coming years. These vehicle turnovers, combined with future national low sulfur fuel standards, the use of Onboard Diagnostic (OBD) systems, and Onboard Vapor Recovery (ORVR) systems will help to offset any potential impacts from the increased emissions from mobile sources in this area.

#### **F. Expected Growth (Including Extent, Pattern, and Rate of Growth)**

Limited data is available in assessing expected growth for Spartanburg and Cherokee Counties, and no data is available for assessing future growth within the recommended area. Conclusions were drawn based on historical data from 1990, current data from 2000, and population projections for 2020 as contained in Table F-1. Economic growth, relative to population growth, is even harder to predict. No knowledge of major economic expansions is available. While it is certain that population counts will grow, it is only assumed that current economic factors will remain stable or that some economic growth will occur. It is reasonable to expect the majority of that growth to be located inside, or at least near, the recommended area boundary.

<b>Table F-1: Historical and Projected Population and Population Density for Spartanburg and Cherokee Counties</b>		
	<b>Spartanburg County</b>	<b>Cherokee County</b>
Population, 1990 <sup>11</sup>	226,793	44,506
Population, 2000 <sup>12</sup>	253,791	52,537
Projected Population, 2020 <sup>13</sup>	302,500	59,600
Population Growth Rate, 1990 – 2000 (Persons per 5 Years)	13,499	4,015.5
Projected Population Growth Rate, 2000 – 2020 (Persons per 5 Years)	12,177.25	1,765.8
Land Area (Sq. Miles)	811	393
Persons per Sq. Mile, 2000	313.0	133.8
Projected Persons per Sq. Mile, 2020	373.0	151.7
Urban Population, 2000	164,341	20,307
% Urban Population, 2000	64.8%	38.7%
Rural Population, 2000	89,450	32,230
% Rural Population, 2000	35.2%	61.3%

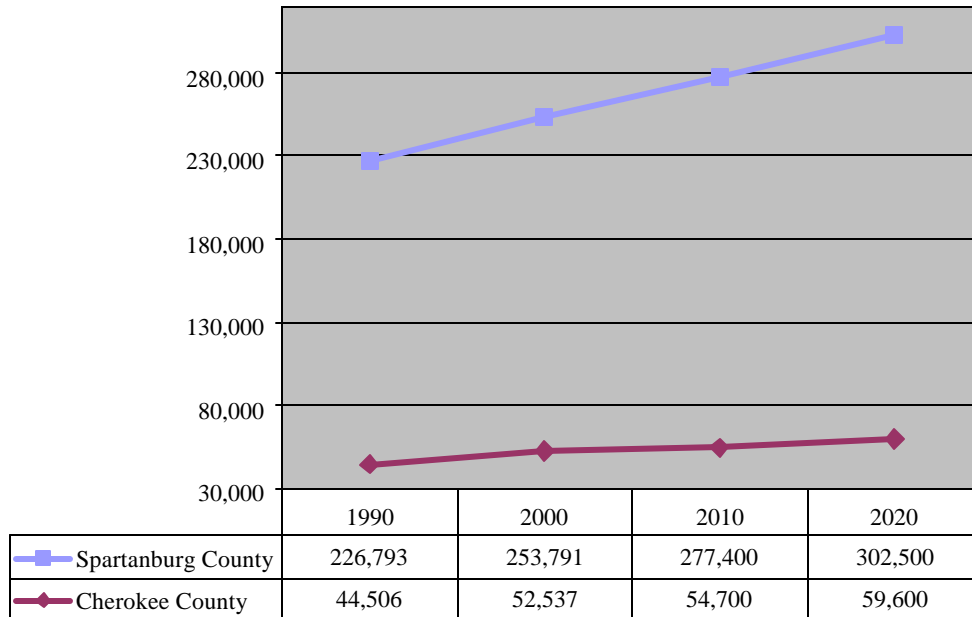
<sup>10</sup> Data provided from SC Department of Public Safety, Division of Motor Vehicles.

<sup>11</sup> Data provided by US Census: 2000.

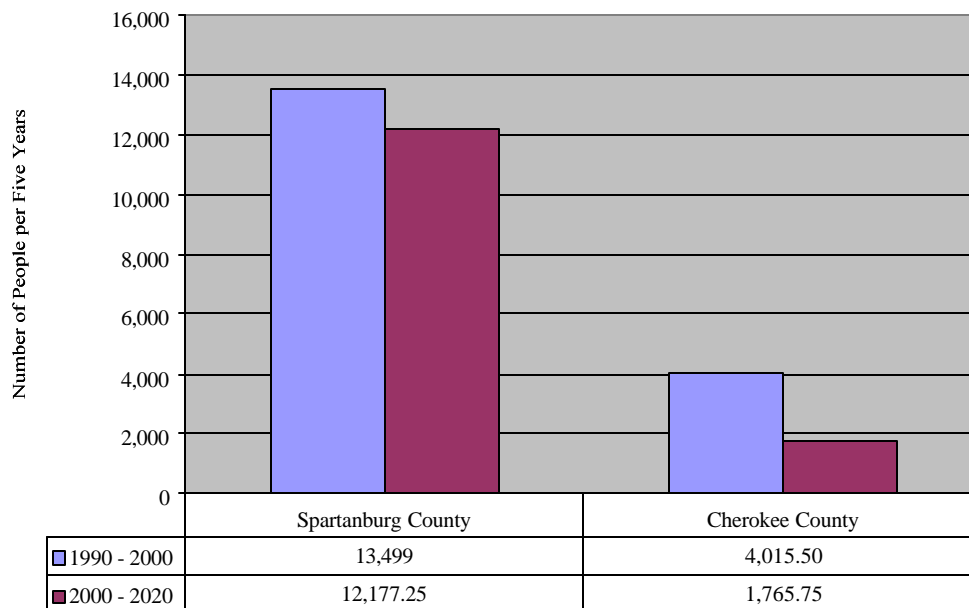
<sup>12</sup> Data provided by US Census: 2000.

<sup>13</sup> Data provided by EPA.

**Figure F-1:  
Population Growth by County, 1990 - 2020**

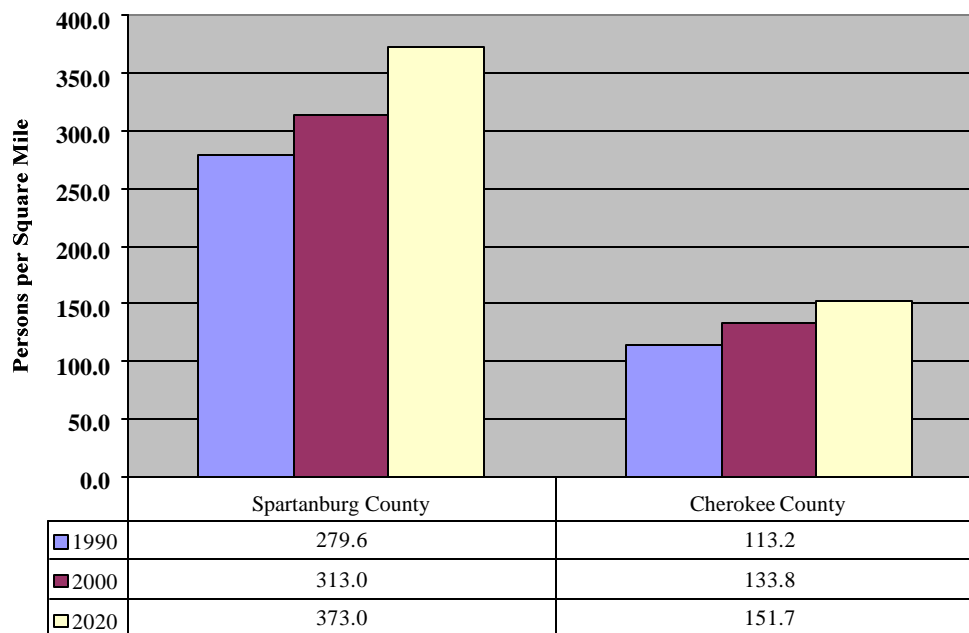


**Figure F-2:  
Population Growth, 1990 - 2020**





**Figure F-3  
Historical and Projected Population Density**



Figures F-1, F-2, and F-3 show historical and projected data for total population, rate of growth, and population density, respectively, for Spartanburg and Cherokee Counties. Since the recommended area already captures the area's urban population and contains portions of the manufacturing and retail trade, it is reasonable to conclude that the recommended area boundary at least approximates, if not contains, the expected population growth, and hence the economic growth, for the area in the coming years.

It should be noted that trends are based on projected data for 2020. The population will grow in each county; however, comparing the population increase per five years over the last ten years (1990 – 2000) to the projected population increase per five years over the next twenty years (2000 – 2020) shows that the rate of growth slows for the counties. Since the recommended area includes the urbanized portion of Spartanburg County, it is assumed that the Spartanburg Nonattainment Area will encompass the majority of expected population growth.

The largest employment sector in both Spartanburg and Cherokee Counties is the manufacturing sector. Retail trade is the second largest employer in each county.<sup>14</sup> The third largest in Spartanburg County is the health care and social assistance sector while the third largest in Cherokee County is construction.

## G. Meteorology

See Section V - G of Introduction.

<sup>14</sup> Data provided by US Census: 2000.

## **H. Topography**

See Section V - H of Introduction.

## **I. Jurisdictional Boundaries**

The Spartanburg Nonattainment Area boundary includes all portions of the Spartanburg MPO and additional (contiguous) portions within Spartanburg County. It also encompasses the area around the Cowpens National Battleground ozone monitoring site, which is located in Cherokee County.

Starting Point is at the Greenville - Spartanburg County Line at SC 296 and the Enoree River.  
Follows Greenville - Spartanburg County Line north to Beaverdam Creek.  
Follows Beaverdam Creek southeast for 1.7 miles to SC 357.  
Follows SC 357 northeast for 1.7 miles to Holly Springs Road (SC 358) and Greer Road.  
Follows Greer Road northeast for 1.0 mile to Hampton Road.  
Follows Hampton Road north for 0.2 miles to Montgomery Road.  
Follows Montgomery Road east for 0.8 miles to North Tyger River.  
Follows North Tyger River southeast for 2.3 miles to Inman Road (SC 292).  
Follows Inman Road (SC 292) North for 1.5 miles to Little Mountain Road (S-217).  
Follows Little Mountain Road (S-217) southeast for 0.3 miles to Israel Drive.  
Follows Israel Drive northeast for 0.5 miles to Lake Cooley.  
Follows Lake Cooley northeast for 0.1 miles to Waterford Drive.  
Follows Waterford Drive northeast for 1.0 mile to Lismore Drive.  
Follows Lismore Drive east for 0.8 miles to Blackstock Road (S-40).  
Follows Blackstock Road (S-40) northwest for 0.3 miles to Old Settle Road.  
Follows Old Settle Road northeast for 1.2 miles to Lawson Fork Road.  
Follows Lawson Fork Road north for 0.2 miles to Lawsons Fork Creek.  
Follows Lawsons Fork Creek east for 1.8 miles to I-26.  
Follows I-26 north for 1.0 mile to Greene Creek.  
Follows Greene Creek east for 0.1 miles to Meadow Creek.  
Follows Meadow Creek north for 2.2 miles to Calvery Road (S-977).  
Follows Calvery Road (S-977) northeast for 0.1 miles to Gate Road.  
Follows Gate Road north for 1.7 miles to Chapman Road (S-54).  
Follows Chapman Road (S-54) east for 0.3 miles to SC 9.  
Follows SC 9 southeast for 0.3 miles to Lake Bowen Dam Road (S-213).  
Follows Lake Bowen Dam Road (S-213) northeast for 1.9 miles to Municipal Reservoir.  
Follows Municipal Reservoir east for 3.4 miles to Pacolet River.  
Follows Pacolet River southeast for 3.4 miles to Taylor Blaylock Lake.  
Follows Taylor Blaylock Lake southeast for 5.9 miles to the Pacolet River.  
Follows Pacolet River southeast to US 221.  
Follows US 221 north to SC 146 in Cherokee County.  
Follows SC 146 south to SC 11.  
Follows SC 11 east to SC 372.  
Follows SC 372 south to SC 36.  
Follows SC 36 west to New Pleasant Road.  
Follows New Pleasant Road northwest to SC 110.  
Follows SC 110 south to Cherokee / Spartanburg County Line.  
Follows Cherokee / Spartanburg County Line southeast to Mill Branch  
Follows Mill Branch southwest for 1.8 miles to Pacolet River

Follows Pacolet River southeast for 2.5 miles to Richland Creek  
Follows Richland Creek southwest for 2.6 miles to Pine St (US 176)  
Follows Pine St (US 176) southeast 1.2 miles to Southport Road (SC 295)  
Follows Southport Road (SC 295) northeast for 2.7 miles to Dairy Ridge Road  
Follows Dairy Ridge Road southwest for 2.4 miles to S-321  
Follows S-321 southwest for 0.3 miles to SC 56  
Follows SC 56 south for 1.1 miles to Fairforest Creek  
Follows Fairforest Creek west for 1.3 miles to Foster Creek  
Follows Foster Creek southwest for 2.2 miles to Freedom Trail  
Follows Freedom Trail northwest for 0.4 miles to Independence Drive  
Follows Independence Drive southwest for 0.4 miles to Patriot Road  
Follows Patriot Road west for 0.3 miles to Stone Station Road (SC 215)  
Follows Stone Station Road (SC 215) northwest for 1.0 mile to US 221  
Follows US 221 southwest for 5.0 miles to South Tyger River  
Follows South Tyger River northwest for 5.1 miles to SC 417  
Follows SC 417 southwest for 0.1 miles to Lightwood Knot Road  
Follows Lightwood Knot Road northwest for 2.5 miles to Greenpond Road (S-62)  
Follows Greenpond Road (S-62) north for 0.3 miles to Gaston Drive  
Follows Gaston Drive north for 0.3 miles to John B White Sr Boulevard (SC 296)  
Follows John B White Sr Boulevard (SC 296) southwest for 5.4 miles back to the starting point on the Greenville - Spartanburg County Line at the Enoree River.

#### **J. Level of Control of Emission Sources**

Through their participation with the Early Action Compact, Spartanburg and Cherokee Counties are exploring local control strategies such as an ozone action coordinator, low sulfur fuels, alternative fuels, hybrid vehicles, high occupancy vehicle lanes, modified speed limits, open burning restrictions, congestion management and an Intelligent Transportation System.

#### **K. Regional Emissions Reductions**

See Section V of the Introduction.